

# Dilation & Scale Factor

**Dilation** is a type of \_\_\_\_\_ .

When a figure is dilated, the shape stays the same, but the sides of the figure get

\_\_\_\_\_ or \_\_\_\_\_ .

To dilate a figure, you must be given a \_\_\_\_\_ and a

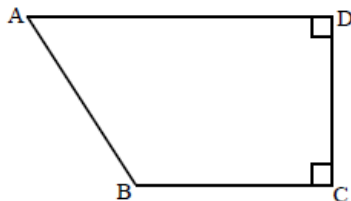
\_\_\_\_\_ .

A **scale factor** is the number each side of the original figure is being \_\_\_\_\_ by to get the newly dilated figure.

If a scale factor is between \_\_\_\_\_ and \_\_\_\_\_ , then the figure gets \_\_\_\_\_ .

If a scale factor is greater than \_\_\_\_\_ , then the figure gets \_\_\_\_\_ .

**Example:** Dilate figure ABCD using center of dilation P and a scale factor of 2 and again by a scale factor of  $\frac{1}{2}$ .



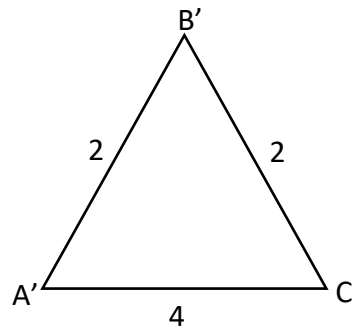
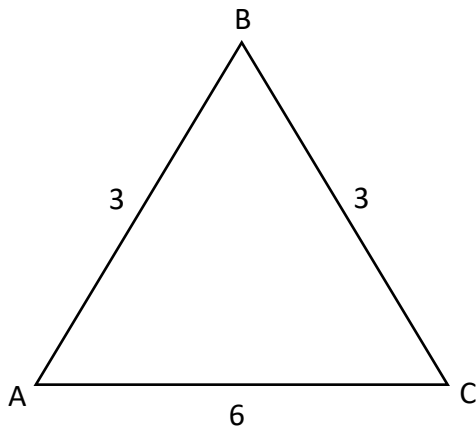
P •

### **How to Find the Scale Factor**

Given two figures that have been dilated, it is possible to find the scale factor by setting up a \_\_\_\_\_ between two sides that \_\_\_\_\_ .

**Note:**

Example: Find the scale factor that takes the bigger figure to the smaller figure and the smaller figure to the bigger figure.



Scale Factor  $\Delta ABC \rightarrow \Delta A'B'C'$ :

Scale Factor  $\Delta A'B'C' \rightarrow \Delta ABC$ :